

Patent Claims

1. Peristaltic pump, with a rotor (3) received in a housing, which is provided with at least one rotatably supported conveyor roller (33a, 33b, 33c), as well as with a tubing holder (2) for receiving of at least one flexible tubing section (43) that is squeezable by the conveyor roller (33a, 33b, 33c) for peristaltically conveying a medium, characterized in that the housing is constituted by a dimensionally stable support frame (1) and by the tubing holder (2), whereby the tubing holder (2) is designed at least partially elastically resilient such that it can be attached to the support frame (1) in the sense of a snap-on connection, and whereby the tubing holder (2) is fixed to the support frame (1) to be dimensionally stable after the attachment.
2. Pump according to claim 1, characterized in that the tubing holder (2) is provided with a tubing bed body member (25), having a tubing bed at its inner side and two legs (2a, 2b) at its end, the latter ones being resiliently elastic in radial direction.
3. Pump according to claim 2, characterized in that the tubing bed body member (25) at least partially and coaxially enlaces the rotor (3).
4. Pump according to claim 2 or 3, characterized in that the two legs (2a, 2b) of the tubing bed body member (25) pass over from a concave shape to a convex shape in a smooth transition in the region of the particular leg end.
5. Pump according to one of the preceding claims, characterized in that the tubing bed body member is designed essentially in the shape of an omega.
6. Pump according to one of the preceding claims, characterized in that the support frame (1) is provided with cut-outs (13) and the legs (2a, 2b) of the tubing bed body member (25) at their ends with notch elements (22) for snappingly engaging the cut-outs (13) of the support frame (1).
7. Pump according to claim 6, characterized in that the notch elements (22) are located at the outside of the legs (2a, 2b), and that the support frame (1) is provided with a web (14) located above the cut-outs (13), at the side facing the tubing bed body member (25), for positively and/or non-positively supporting the particular leg (2a, 2b) of the tubing bed body member (25) at the outside.
8. Pump according to one of the preceding claims, characterized in that the tubing bed body member (25) is designed such that its dimensional stability and fixation at the support frame (1) is supported, in addition to the elastically resilient inherent tenseness of the legs (2a, 2b), by the mutual force action of the squeezed tubing section and the squeezed tubing sections (43), respectively.
9. Pump according to one of the claims 2 to 8, characterized in that the tubing bed body member (25) is provided with a plurality of radially and/or axially extending reinforcing ribs (23, 24).
10. Pump according to one of the preceding claims, characterized in that the inner side of the tubing bed body member (25) is provided with a multitude of groove-like recesses (21) for receiving and guiding a plurality of tubing sections (43).

11. Pump according to claim 9, characterized in that the particular conveyor roller (33a, 33b, 33c) is in the shape of a barrel and extends in axial direction over the groove-like recesses (21).
12. Pump according to one of the preceding claims, characterized in that the particular tubing section is led into and out of the tubing bed body member (25) in substantially tangential direction.
13. Pump according to one of the preceding claims, characterized in that the rotor (3) is provided with at least two conveyor rollers (33a, 33b, 33c), and that the tubing bed body member (25) coaxially enlaces the rotor (3) by an amount of 360° divided by the number of conveyor rollers.
14. Pump according to one of the claims 1 to 12, characterized in that the rotor (3) is provided with three conveyor rollers (33a, 33b, 33c), and that the inlet portion (35) is offset around the axis of rotation of the rotor (3) with regard to the outlet portion (36) by 210° to 270° , preferably by approximately 240° .